

APPENDIX B-1 DRAFT NORRIS DAM RESERVATION TACTICAL PLAN

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D R A F T
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INTRODUCTION

The Norris Dam Reservation, like most dam reservations in TVA, serves many purposes. It is the location of hydropower production, hydropower distribution, resource stewardship activities, recreation opportunities, office space, etc. Historically, the staff responsible for the various activities and maintenance of the facilities and grounds have planned their activities with little or no attention to the outcomes provided by the dam reservation as a whole.

The main purpose of this Plan is to bring the stakeholders and all TVA interests together to develop a common vision of the outcomes produced from Norris Dam Reservation for the next 5-10 years.

Hydropower production at Norris Dam is provided by two turbines. Each turbine is rated at 60 megawatts. Norris Dam and the switchyard are permanently fixed structures beyond the scope of this Plan. However, the grounds outside those structures and potential activities proposed on those grounds will be evaluated concerning any potential impacts to the structure.

Norris Dam Reservation historically has been utilized for natural resource projects. After the dam construction was finished, the reservation was used as a fish-rearing area to restock the native sport fish populations in Norris Reservoir. It was a test orchard for trees that could be used for reclaiming strip mines and provide valuable wildlife food. It was a nursery for seedling trees for reforestation activities. It currently is being used as a superior tree seed source for the Tennessee State Forestry Tree Seedling Program.

It is also a place where natural resource-oriented recreation occurs. TVA has developed several trails on the dam reservation used by hikers and bird watchers. Over time, with changing recreation needs, the trails are also being used by exercise walkers and by horseback riders and mountain bikers gaining access to the extensive trail system of the Norris city watershed and the Norris Dam State Park. In addition, as TVA improved the oxygen levels released from the turbines and constructed the weir dam providing minimum flows downstream, the Clinch has become a regionally significant trout water fishery.

CUSTOMER SCOPING

During the summer (June-August) TVA staff asked customers to the dam reservation to complete a questionnaire about their recreation activities and facility and maintenance preferences (see attached). The majority of the interviews were fisherman (60 percent), but picnicking, sightseeing, and wildlife viewing were mentioned by 45 percent of those interviewed. In addition, exercise walking, hiking, and visiting the Grist Mill and Lenoir Museum were mentioned by approximately 25 percent of those questioned. It is clear that a diverse number of recreation activities occur on the dam reservation.

Eighty-eight percent of customers interviewed felt the dam reservation is safe, seventy-three percent felt that it is usually not crowded; and seventy-six percent felt that the recreation activities of others did not interfere with their recreation activity. In addition, they believe that the litter on the dam reservation is taken care of, 90 percent; and that restroom facilities are clean, 65 percent. All in all, the responses to these particular questions indicate that the people who use Norris Dam Reservation believe that the existing facilities and grounds are well maintained and the overall experience is satisfactory.

When asked about certain facility needs and preferences, 66 percent of those customers interviewed felt that more permanent restroom facilities were somewhat or very important. In addition, 41 percent were in favor of additional portable toilets. Both responses indicate a need for additional waste management systems.

When asked about a trail for exercise walking and looping Song Bird Trail, 55 percent and 47 percent, respectively, said these were important additions.

RECREATION FACILITIES

Existing

The customer facilities currently provided at the top of Norris Dam by TVA consist of a toilet building, 15 picnic tables, and parking for 130 cars. Customer facilities below the dam consist of a parking lot for 60 cars, canoe/small boat launching area with parking for 25 cars, and trail head for Song Bird Trail (1-mile long). There are three additional public parking lots along the left bank downstream of the area (see attached map)—one in front of the Aquatic Biology Lab, Clear Creek, and the weir dam with parking for 55 cars. The parking lot at Clear Creek and the Aquatic Biology Lab are used by fishermen but they are also used by mountain bike riders and horseback riders who are gaining access to the trail system of the Norris city watershed and Norris Dam State Park.

Downstream of the weir and technically off the reservation is a boat launching area (Miller Island) which includes a parking lot for 30 cars. This area is used for bank fishing, wading, and boat access to fish and hunt on the Clinch River.

The right bank of the dam reservation includes the visitor overlook area with parking for 25 cars, River Bluff Trail (3-mile loop) with parking for five cars, the TVA Police firing range, small picnic area with four tables, and a set of steps that provide access to the river for bank fisherman. TVA provides three portable toilets from May through mid-October, one at the first small boat launch, one at Clear Creek, and one at Miller Island Boat Launch.

| AREA | PARKING | # PICNIC | RESTROOM | TRAIL | RAMP |
|---------------------|---------|----------|------------|-----------|------------|
| West Overlook | 25 | None | None | | |
| Riverbluff | 10 | 4 | None | 3 miles | |
| East Overlook | 130 | 15 | Permanent | | |
| Powerhouse | 60 | None | Inside Dam | | |
| Canoe Access | 25 | None | Portable | Song Bird | Yes |
| Aquatic Biology Lab | 15 | None | None | Song Bird | |
| Clear Creek | 15 | None | Portable | None | |
| Weir Dam | 25 | None | None | None | Canoe Only |
| Miller Island | 30 | None | Portable | None | Yes |

Proposed Action

As previously stated, most of the recreation activities occurring on the dam reservation are natural resource-oriented, and none of the comments received during the survey indicated a need for any intensive type of development that would move the recreation use to a more structured format. However, there were some facility needs identified.

The number one priority need is a restroom. It is proposed that a restroom will be constructed in the open space between Clear Creek and the weir dam in fiscal year (FY) 2002. A lower priority is the need to get exercise walkers off of the road shoulders and extend hiking opportunities. This could be accomplished in FY 2003 by making Song Bird Trail a loop trail, crossing Clear Creek and tying the canoe launch parking lots with Clear Creek parking lot and the new restroom facilities (see attached map). It is also recommended that a picnic shelter be constructed at the east side overlook in FY 2004. The access to existing picnic tables does not meet American Disability Act standards but this could be accomplished with properly siting a picnic shelter.

The handrail and sidewalk for the powerhouse parking lot is in bad shape and should be replaced. This could be phased in over a 2- to 4-year period and budgeted through the Clinch-Powell Watershed Team (CPWT) budget instead of the Valley-wide capital budget where it would not rank very high because of the Valley-wide needs that are not being met.

EXOTIC PLANT MANAGEMENT

There are numerous invasive exotic plants found on the dam reservation but the most noticeable and fastest spreading are: Autumn olive (*Elaeagnus umbellata*), Oriental bittersweet (*Celastrus orbiculata*), Japanese honeysuckle (*Lonicera japonica*), Multiflora rose (*Rosa multiflora*), and Kudza (*Pueraria montana*). TVA contributed to the problem by planting Autumn olive for songbird food in the mid-1970s. As TVA has continued to reduce its acreage of mowed areas to be more cost-effective, these species have invaded into those disturbed open areas and become a nuisance species. Most of the exotic plants are on the left bank of the Clinch River; however, the seed base has now become large enough that birds are depositing them in the River Bluff Small Wild Area.

Executive Order 13112 (Invasive Species) of February 3, 1999, Section 2, Item 2 directs federal agencies to: . . .(ii) detect and respond rapidly to and control populations of such species in a cost effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded

Proposed Action

Control invasive exotic species where possible by mowing. This will require limbing and removal of some smaller tree species to allow access to mowers. Some vine species will need to be cut or sprayed by hand. It is not the intention of this effort to seed grass or mow on a weekly or biweekly basis. The exotic plants will be controlled by mowing on an annual basis (TVA standard for Level IV mowing). Mowing will minimize soil disturbance activities. It is the intention of this Plan to mow, spray, or cut exotic plants in 90-100 percent of the areas identified on the attached map.

Native plant restoration will occur in the same areas as the control areas; however, it is not anticipated that the understory will be as dense as it currently is with exotic species. Planting native plants over the entire area where exotic plant control is taking place would defeat the objective of managing exotic plant control cost effectively by mowing. Some of the native species used would be:

| | |
|--------------|----------------------------|
| Serviceberry | <i>Amelanchier arborea</i> |
| Red mulberry | <i>Morus rubra</i> |
| Farkleberry | <i>Vaccinium arboreum</i> |
| Hazelnut | <i>Corylus americana</i> |
| Spicebush | <i>Lindera benzoin</i> |

WILDLIFE MANAGEMENT AND FORESTRY

The survey indicated that viewing deer and other wildlife was one of three recreation activities mentioned most often after fishing. First time visitors stated that sight-seeing was their most popular activity (87 percent) and it could be assumed that seeing some form of wildlife could enhance their sight-seeing. Norris Dam Reservation is a very popular area for viewing deer. In the late evenings, the area is similar on a smaller scale to Cades Cove. Some evenings 20-30 cars may be lined up to view the deer in open areas below the dam and the picnic area at the top of the dam. A disproportionately small number of surveys were conducted after 7 p.m. during the survey period; therefore, it is possible that viewing deer and other wildlife is the most popular recreation activity occurring on the dam reservation.

Proposed Action

As part of the exotic plant control efforts, additional space will be available to plant native warm season grasses as the understory edge is pushed further back. In addition, several areas sewn in fescue will be converted to native warm season grasses and some areas will be converted from fescue to wildlife habitat areas (see attached map). Activities in these areas include spraying, disking, seeding, and some tree removal in the proposed wildlife habitat area northwest of Clear Creek. In addition, the area in front of the of the Clinch-Powell watershed office (CPWO) would be converted to hardwoods after the Clinch-Powell Watershed Team has moved to the Aquatic Biology Lab and the CPWO building has been removed.

VISITOR SAFETY

Current Situation

As previously stated, 88 percent of visitors feel safe using the dam reservation. However, when given the chance to comment on a safety issue, 58 percent supported reducing the speed limit below the current 55-mile per hour speed limit. Only 14 percent had a negative response to this question.

There are many deer on the dam reservation. The deer are one of the major natural features that attract visitors to the dam reservation, and they are also one of the major safety hazards. Every year, there are numerous deer that are hit by cars.

Proposed Action

TVA will contact the Tennessee Department of Transportation (TDOT) and petition TDOT to lower the speed limit on the dam reservation. In addition, the woody vegetation on the west side of Highway 441 between the Aquatic Biology Lab and Clear Creek will be pushed back an additional 20 feet to provide a safer visual cushion for spotting deer.

SHORELINE MANAGEMENT ZONES

There are several areas on the dam reservation where our mow lines have gotten too close to the Clinch River and Clear Creek. Although these are not reservoir shoreline areas it seems appropriate that wherever applicable the dam reservations shoreline should meet TVA's Shoreline Management Policy described for shoreline management zones.

Proposed Action

The shoreline around Clear Creek, between Highway 441 and the Clinch River, and the shoreline of the Clinch River on the left bank from Clear Creek to the weir are prime areas to be planted and converted to shoreline management zones. These areas would be planted with native trees, mowing would be limited or stopped, and 20-foot access/view corridors would be developed.

MAINTENANCE

Current Situation

Presently about half of the dam reservation grounds are mowed at a Level IV (approximately one to two times per year). The grounds around the upper picnic area, the grass area between the large parking lot below the dam and the small boat launch, the grass area between Clear Creek and the weir, the grass area in front of the CPWO, Miller Island access, and the road shoulders are maintained at a Level II. Level II areas are mowed when grass reaches a height of 3 inches which is about every 10 days during the growing season. The visitor overlooks on both sides of the dam are Level I areas.

Proposed Action

The proposed actions would add some additional maintenance costs to the operation of the dam reservation. For example, adding restroom facilities would increase costs by approximately \$11,000 per year to the cost of operations. Turning Song Bird Trail into a loop trail would add approximately \$1,000 in costs to the operation of the dam reservation.

| Fiscal Year | Task Description | Costs |
|--------------------|---|--------------|
| 2001 | Pervious paving demonstration - Clear Creek | 28,000 |
| 2002 | Invasive exotic species - 1000 feet Song Bird Trail | \$3,000 |
| 2002 | Restroom facility | \$85,000 |
| 2003 | Invasive exotic species-1000 feet Song Bird Trail | \$3,000 |
| 2003 | Begin native plant restoration | \$8,000 |
| 2003 | Construct bridge over clear creek | \$30,000 |
| 2003 | Plant SMZ clear creek | \$2,000 |
| 2003 | Widen visual zone on 441 | \$5,000 |
| 2004 | Develop loop trail - bridge to Song Bird Trail | \$40,000 |
| 2004 | Invasive exotic species - 1000 feet Song Bird Trail | \$3,000 |
| 2004 | Begin conversion of island from fescue to NWSG | \$2,000 |
| 2004 | Begin wildlife habitat area work Clear Creek | \$3,000 |
| 2004 | Continue native plant restoration | \$8,000 |
| 2004 | Begin handrail/sidewalk replacement | \$22,000 |
| 2004 | Shoreline stabilization work at Clear Creek | \$40,000 |
| 2004 | Plant SMZ between Clear Creek & Weir | \$2,000 |
| 2005 | Invasive exotic species - 1000 feet Song Bird Trail | \$3,000 |
| 2005 | Complete conversion from fescue to NWSG | \$2,000 |
| 2005 | Complete wildlife habitat area work Clear Creek | \$3,000 |
| 2005 | Continue native plant restoration | \$8,000 |
| 2005 | Construct picnic shelter - East Side Overlook | \$35,000 |
| 2006 | Invasive exotic species - 1000 feet Song Bird Trail | \$3,000 |
| 2006 | Continue native plant restoration | \$8,000 |
| 2006 | Begin wildlife habitat area work below Weir Dam | \$3,000 |
| 2007 | Invasive exotic species - 1000 feet Song Bird Trail | \$3,000 |
| 2007 | Continue native plant restoration | \$8,000 |
| 2007 | Complete wildlife habitat area work below Weir Dam | \$3,000 |
| 2008 | Handrail/sidewalk replacement below dam | \$60,000 |